Barringer. 2013. New combinations in *Sairocarpus* (Plantaginaceae). Phytoneuron 2013-34: 1–3. Published 20 May 2013.
ISSN 2153 733X

NEW COMBINATIONS IN *SAIROCARPUS* (PLANTAGINACEAE)

KERRY BARRINGER
Brooklyn Botanic Garden
1000 Washington Avenue
Brooklyn, New York 11225-1099
kbarringer@bbg.org

ABSTRACT

Three new combinations within *Sairocarpus* (Plantaginaceae) are made: *Sairocarpus cornutus* subsp. *lepataleus* (A. Gray) Barringer based on *Antirrhinum leptaleum* A. Gray, *Sairocarpus vexillocalyculatus* subsp. *breweri* (A. Gray) Barringer based on *Antirrhinum breweri* A. Gray, and *Sairocarpus vexillocalyculatus* subsp. *intermedius* (D.M. Thomps.) Barringer based on *Antirrhinum vexillocalyculatum* Kellogg subsp. *intermedium* D.M. Thomps. *Antirrhinum breweri* A. Gray is lectotypified.

KEY WORDS: Plantaginaceae, Antirrhineae, *Sairocarpus*, *Antirrhinum*

The upcoming treatment of the Plantaginaceae in the *Flora of North America* will recognize the genus *Sairocarpus* (Plantaginaceae) as a valid genus for many of the New World species formerly placed in *Antirrhinum* L., making the following new combinations necessary.

The photographs cited are available through JSTOR Plant Science (2013).

SAIROCARPUS CORNUTUS subsp. LEPTALEUS (A. Gray) Barringer, **comb. et stat. nov**. Basionym: *Antirrhinum leptaleum* A. Gray, Proc. Amer. Acad. Arts 7: 373. 1868. *Antirrhinum cornutum* var. *leptaleum* (A. Gray) Munz, Proc. Calif. Acad. Sci. Ser. 4. 15: 351. 1926. **TYPE: USA. California**. Mariposa Co.: Clark's, 1866, *H.N. Bolander 4983* (holotype: GH!; isotypes F, MO, NY!, US!, YU; photos: F0072287, GH00077905, MO-503774, NY67846, US000122124, YU001874).

Antirrhinum emarginatum Eastwood, Bull. Torrey Bot. Club 32: 214. 1905. **TYPE: USA. California.** Fresno, ploughed river bottom land, 15 May 1924, *C.E. Jenney 216* (holotype: CAS. photo: CAS0027068).

Sairocarpus cornutus (Benth.) Rothm. is distinguished from other species of *Sairocarpus* by the absence of prehensile pedicels or branches and the flowers axillary, solitary, and all chasmogamous.

Sairocarpus cornutus subsp. *cornutus* and subsp. *leptaleus* have distinct ranges in California. *Sairocarpus cornutus* subsp. *cornutus* grows along Sacramento River from Lake County north to Shasta County, while subsp. *leptaleus* grows to the west and south, along streams and ditches in the foothills of the western slopes of the Sierra Nevada from southeastern Butte County south to Kern County (Weatherwax & Thompson 2012).

Morphological differences are not as well marked, but *Sairocarpus cornutus* subsp. *leptaleus* has an inconspicuously veined corolla while the corolla of subsp. *cornutus* has distinct, violet veins. The palate of subsp. *cornutus* is densely hairy while the palate of subsp. *leptaleus* less hairy and the hairs tend to be found toward the mouth of the corolla. Also, the lower corolla lobes of subsp. *leptaleus* tend to be spreading, not reflexed, and the leaves tend to be more than 5 mm wide. Thompson (1988) considered *S. cornutus* subsp. *leptaleus* to be a distinct species but it has been

treated as either a synonym of *Antirrhinum cornutum* Benth. or as a variety of that species by others (Sutton 1988; Munz 1926; Rothmaler 1943).

SAIROCARPUS VEXILLOCALYCULATUS subsp. BREWERI (A. Gray) Barringer, **comb. nov.** Basionym: *Antirrhinum breweri* A. Gray, Proc Amer. Acad. Arts 7: 374. 1868. *Antirrhinum vagans* var. *breweri* (A. Gray) Jepson, Fl. W. Calif. 397. 1901. *Antirrhinum vexillocalyculatum* var. *breweri* (A. Gray) Munz, Proc. Calif. Acad. Sci., ser. 4, 15(12): 364. 1926. *Antirrhinum vexillocalyculatum* Kellogg subsp. *breweri* (A. Gray) D.M. Thomps., Syst. Bot. Monogr. 22: 82. 1988. *Sairocarpus breweri* (A. Gray) D.A. Sutton, Rev. Antirrhineae. 474. 1988. **LECTOTYPE** (here designated): **USA. California**: camp 96, below Mt. Shasta, 7 Sep 1862 (as "1863"), *W.H. Brewer 1343* (lectotype: GH!; isolectotype: US!; photos: GH00077895, US322574, US322575).

Antirrhinum breweri var. *ovalifolium* A. Gray, Proc. Amer. Acad. Arts. 7: 375. 1868. **TYPE: USA. California**. 'with 1343,' Sacramento ferry; camp 69, 7 Sep 1862, *W.H. Brewer s.n.* (holotype: GH; isotype: US!; photos: GH00077896, US0012217)

Sairocarpus vexillocalyculatus subsp. *breweri* is distinguished from the other subspecies of *S. vexillocalyculatus* by its glandular pubescent stems and relatively large flowers. It can resemble *S. cornutus,* which also has white to lilac flowers and grows in the same general area but that species has a deeper sac at the base of the corolla and pedicels less than 1 cm long.

The subspecies of *Sairocarpus vexillocalyculatus* have distinct ranges but can hybridize (Thompson 1988). Subspecies *breweri* is found on serpentine rockslides in northwestern California and southwestern Oregon.

The specimen of *Brewer 1343* in the Gray Herbarium has been considered to be the holotype and is marked as such, but not in Gray's handwriting. Gray cited three specimens: Brewer "Upper Valley of the Sacramento," Torrey "Lake County," and Bolander "Mariposa County." The Bolander specimen is *S. vexillocalyculatus* subsp. *intermedius* and the Torrey specimen is subsp. *vexillocalyculatum*, but the Brewer specimen is subsp. *breweri* and can be considered the obvious lectotype.

The holotype of *Antirrhinum breweri* var. *ovalifolium* has no locality data, but the isotype lists the Sacramento ferry locality. Neither specimen has a collection number but both have labels with the note 'with 1343.'

SAIROCARPUS VEXILLOCALYCULATUS subsp. INTERMEDIUS (D.M. Thomps.) Barringer, **comb. nov.** Basionym: *Antirrhinum vexillocalyculatum* Kellogg subsp. *intermedium* D.M. Thomps., Syst. Bot. Monogr. 22: 84. 1988. **TYPE: USA. California**: Sierra Co.: Downieville, 0.4 mi W of bridge over Downie River, 11 Sep 1983, *D.M. Thompson 381B* (holotype: JEPS; isotypes F, MO!, US!; photos: JEPS83280, MO-503764, US 3439403)

Populations of *Sairocarpus vexillocalyculatus* subsp. *intermedius* are found in the Sierra Nevada and are geographically isolated from populations of the other subspecies. Plants can be distinguished from subspecies *breweri* by the spreading, eglandular trichomes found mixed with glandular trichomes on the stems and from subspecies *vexillocalyculatum* by their smaller corollas and by the presence of glandular trichomes on the stem.

ACKNOWLEDGEMENTS

I thank Dr. Craig Freeman, Dr. Gerry Moore, Dr. Richard Rabeler, Rusty Russell, Dr. Barbara Thiers, and my colleagues at Brooklyn Botanic Garden for their help with this and related research for the *Flora of North America*.

LITERATURE CITED

JSTOR Plant Science. 2013. JSTOR Plant Science/Global Plants. <http://plants.jstor.org/> Accessed 1 Mar 2013.

Munz, P.A. 1926. The Antirrhinoideae-Antirrhineae of the New World. Proc. Calif Acad. Sci., ser 4. 15: 323–397.

Rothmaler, W. 1943. Taxonomische Monographie der Gattung *Antirrhinum*. Feddes Repert. Beih. 136: 1–124.

Sutton, D.A. 1988. A Revision of the tribe Antirrhineae (Scrophulariaceae). Cambridge Univ. Press and the British Museum (Natural History), Cambridge.

Thompson, D.M. 1988. Systematics of *Antirrhinum* (Scrophulariaceae) in the New World. Syst. Bot. Monogr. 22: 1–142.

Weatherwax, M. and D.M. Thompson. 2012. *Antirrhinum* (Plantaginaceae) in B. Baldwin et al. (eds.). The Jepson Manual (ed.2). Univ. of California Press, Berkeley.